SEAT BELT AND MOTORCYCLE HELMET SURVEY

NOVEMBER 2011

Prepared for:

The Office of Highway Safety

Division of Public Safety Planning

Mississippi Department of Public Safety

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MISSISSIPPI STATE UNIVERSITY™

SSRC Social Science Research Center

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Produced by: **Media Collaboration Laboratory**

INTRODUCTION

Mississippi has benefited from a primary seat belt law for a little over five years. In May 2006, Mississippi passed a primary seat belt law making it lawful for an officer to stop and ticket a vehicle driver for no other reason than not using a seat belt. The officer may also ticket the driver for unbelted passengers in the front seat of a vehicle. This small victory in public safety has resulted in increased seat belt usage rates for the state and thereby theoretically saved the lives of a number of Mississippians.

The National Highway Traffic Safety Administration (NHTSA) estimates 32,788 motor vehicle traffic fatalities in the United States in 2010. If this estimate is verified, it will represent a three percent decrease from the previous year's fatality count of 33,808. It will also replace that number as the lowest number of recorded motor vehicle traffic fatalities since 1949. The continued reduction in vehicle traffic fatalities could be attributed to factors such as the economy, unemployment, vehicle improvements and highway safety programs. Despite the significant reduction however, fatal crashes have claimed many lives over the years and continue to claim on average about 90 lives each and every day. In terms of a rate estimate, NHTSA calculates a national rate of 1.09 fatalities per 100 million vehicle miles of travel in 2010. Compare this figure with a rate of 1.13 fatalities per 100 million vehicle miles traveled in 2009.[1]

In 2009, Mississippi's traffic fatality rate of **23.71** fatalities per 100,000 Mississippians was over **115 percent higher** than the national average of 11.01.

Vehicle safety is a major component in all aspects of vehicle and road designs. However, it is the behavior of the driver and passengers with respect to belt use that ultimately determines the probability of survival in most vehicle crashes. A great number of fatalities may have been avoided if proper vehicle restraints had been used at the time of the crashes. NHTSA estimated from 1975 to 2009, safety belts saved 267,890 lives on American roads – with 12,713 of those estimated lives saved in 2009 alone.[2]

In the absence of 2010 fatality data at the time of this report, 2009 data for Mississippi will be stated. Mississippi's 2009 traffic fatality rate of 23.71 fatalities per 100,000 Mississippians was over 115 percent higher than the national average of 11.01.[3] This tragic death rate continues to be reflected by the 641 lives lost in Mississippi in 2010.[4]

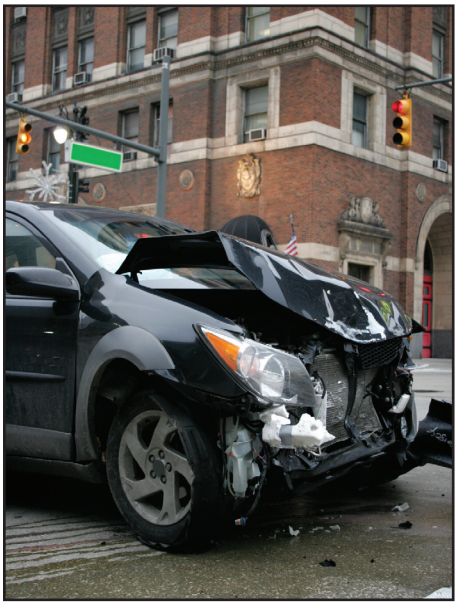
Despite significant increases in observed seat belt usage since the primary law was passed, the loss of life due to automobile crashes in Mississippi is still staggering. Perhaps a portion of this loss of life could be attributed to Mississippi continuing to lag behind the national belt use average. Mississippi had an estimated 81.0 percent seat belt usage rate in 2010. The national average was 85 percent. Last year, 14 states had a lower belt usage rate than Mississippi – from New Hampshire at 72.2 percent down to Virginia at 80.5 percent. This rise in the ranks is a distinguished improvement from years past, but 10 of these 14 states do not have a primary seat belt law. New Hampshire remains the last state in the nation to not have any form of seat belt law.

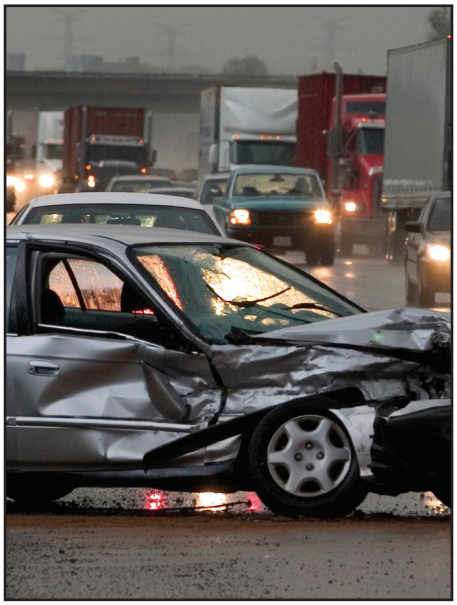
For the past 10 years, Mississippi has participated in a major effort conducted under the term "Click It or

Ticket" (CIOT) during Memorial Day mobilizations. These efforts have been an attempt to increase seat belt awareness and use by implementing a number of phases. The first of these phases was an earned media phase including public service announcements, brochures and newspaper articles that were introduced to the Mississippi public. After two weeks of earned media, an extensive paid media campaign began (second phase). Lastly, a statewide law enforcement blitz (third phase) increased the intensity of seatbelt law enforcement throughout the state. All law enforcement agencies participated in this increased level of enforcement by using road blocks as well as saturated patrolling efforts.

In 2011, two observational seat belt surveys were conducted by the J. W. Landrum Observational Survey Laboratory at the Social Science Research Center, Mississippi State University. One survey was conducted prior to media and law enforcement intervention. This pre-campaign survey was a sub-sample (64 sites in eight Mississippi counties) of the larger post-campaign survey design. The follow-up or post-campaign survey in 2011 includes observations from 168 sites in 16 counties to produce the official seat belt usage rate for Mississippi. This survey was conducted following all law enforcement and media interventions. Preusser Research Group, Inc. (PRG) assisted SSRC in the data analysis phase of the project.

MISSISSIPPI CLICK IT OR TICKET





[1]NHTSA Traffic Safety Facts – Early Estimates of Motor Vehicle Traffic Fatalities in 2010 – April 2010 (DOT HS 811 451)
[2]NHTSA Traffic Safety Facts 2009 – Overview (DOT HS 811 392)
[3]NHTSA State Traffic Information – Mississippi – 2009
[4]Mississippi Department of Public Safety, 2011
[5]NHTSA State Traffic Information - Mississippi - 2009

SEAT BELT SURVEY METHODOLOGY

The seat belt and motorcycle survey for Mississippi uses a multi-stage area probability approach. In the first stage, an appropriate number of sampling units are randomly selected. The primary sampling unit for the Mississippi survey is the county. The least populated counties, approximately 15 percent of the state's population, are excluded from the sampling process. Sixteen Mississippi counties, containing approximately 47 percent of the state's population, were then chosen.

SUMMARY OF SAMPLING METHODOLOGY

A. Five counties were selected as certainty counties because of having populations much larger than other Mississippi counties. These counties also comprise nearly 30 percent of the state's population. The certainty counties were Hinds, Harrison, DeSoto, Jackson and Rankin.

B. Thirty-four of the least populated counties, whose combined population accounted for only 15 percent of the state's population, were eliminated from the sampling frame.

C. Sampling was done without replacement. In addition to the five certainty counties, 11 other counties were chosen, thus the sample consists of 16 counties.

D. The sample includes 168 forty-minute observation periods at 168 pseudo-randomly chosen road segment locations. Each road segment within a county was randomly chosen with probability of being chosen proportionate to the VMT of the road segment. The five certainty counties were allotted 16 observation periods, while the remaining 11 counties were allotted eight observation periods each.

E. The qualifying route segments comprising the sampling population are identified from the Mississippi Department of Transportation (MDOT) Roadway Characteristics File.

F. The route segments from each of the survey counties are stratified into the following four groupings using MDOT functional classification data: (1) Interstates and Other Expressways, (2) Other Principal Arterials, (3) Minor Arterials and (4) Collectors.

G. For a given county, segments were pseudo-randomly chosen from each of the four strata.

H. For each certainty county, the 16 sites were each grouped by proximity into two clusters of eight sites.

I. For each cluster (certainty counties have two eight-site clusters, other counties have one eight-site cluster), a day of the week was randomly chosen. All days of the week were eligible for selection.

J. Once a site was assigned a day of the week, observation times between 8 a.m. and 6 p.m. were randomly chosen in hourly increments.

K. Direction of observation was randomly assigned for all 168 sites.

L. Observers were instructed to observe from a site using the assigned direction for a period of 40 minutes.

M. The sampling frame includes counting all passenger vehicles, sports utility vehicles, vans and pickup trucks. Other vehicles, such as large buses, larger trucks and farm equipment are excluded from observation.

N. One observer is used at each observation site, and the shoulder belt use/nonuse of all front seat, outboard occupants of qualifying vehicles is recorded on forms supplied by the SSRC.

Special thanks to Preusser Research Group (PRG) for their assistance in the development of this methodology and continuing technical expertise.

Further details on the sampling methodology of the survey can be found in the document "PROPOSAL FOR MISSISSIPPI OBSERVATIONAL SURVEYS OF SAFETY BELT AND MOTORCYCLE HELMET USE" prepared by David R. Parrish (SSRC), Mark G. Solomon (PRG), William A. Leaf (PRG), Jarryl B. Ritchie (SSRC) and Katie Holland (SSRC). This methodology was approved by NHTSA in 2008 and can be obtained from the J. W. Landrum Observational Survey Laboratory at the Social Science Research Center, Mississippi State University, Box 5287 Mississippi State, MS 39762, or by contacting Mr. David Parrish at (662) 325-8116 or david.parrish@ssrc.msstate.edu.

SECTION ONE: PRE-CAMPAIGN OBSERVATIONAL SEAT BELT SURVEY RESULTS

Prior to any media or law enforcement efforts encouraging seat belt usage, a mini survey was conducted. This survey was administered with intentions of establishing a baseline seat belt usage rate before the CIOT campaign. This mini survey includes observations from 64 sites in eight counties (eight sites per county). It is a sub-sample of the 168 site/16 county sample. **Figure 1** shows the counties chosen in the mini (baseline) survey.

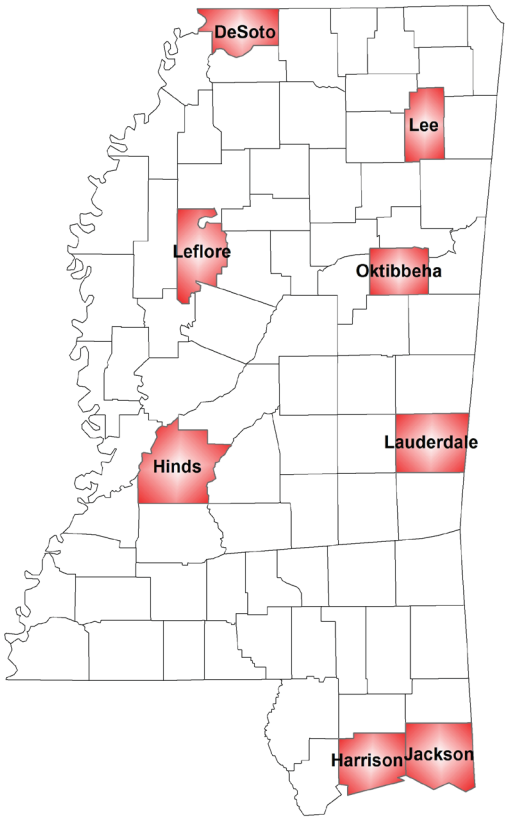


Figure 1: Mini Survey Counties

1. DeSoto
2. Harrison
3. Hinds
4. Jackson
5. Lauderdale
6. Lee
7. Leflore
8. Oktibbeha

The data from this survey was collected between April 8 and May 8, 2011. The counties in the survey include a mixture of different geographical regions where both rural and urban counties are represented. Likewise, a mixture of rural and urban road segments from all road classes are also part of this mini survey.

Table 1: Baseline Seat Belt Usage Rates* by Type of Vehicle

Mini Survey of 64 Sites in 8 Counties

Type of Vehicle	Occupants Observed	Percent Belted
Passenger Car	3,736	80.9%
Pickup Truck	1,754	74.4%
SUV	1,450	84.5%
Van	581	85.3%
Total	**7,521**	**80.5%**

*unweighted rates

Table 2: Baseline Seat Belt Usage Rates* by County

Mini Survey of 64 Sites in 8 Counties

County	Occupants Observed	Percent Belted
DeSoto	1,492	76.6%
Harrison	1,055	90.6%
Hinds	487	94.5%
Jackson	966	87.7%
Lauderdale	1,099	86.6%
Lee	963	79.5%
Leflore	745	54.0%
Oktibbeha	714	73.7%
Total	**7,521**	**80.5%**

*unweighted rates

Table 1 shows the baseline belt use figures by type of vehicle observed. Note these are unweighted usage rate percentages. The overall usage rate for the baseline survey was 80.5 percent. Vans held the highest rate of occupant restraint use with 85.3 percent. Occupants in SUVs showed restraint use slightly below the van rate at 84.5 percent. Passenger car occupants exhibited a higher than average 80.9 percent belt rate, but pickup truck occupants continue to exhibit subpar belt use rates in Mississippi. Although higher than last year's 67 percent belt use for trucks, a still low 74.4 percent belted rate for trucks lowers the total average significatly. Seat belt compliance for pickup truck occupants is a considerable problem area for Mississippi, which if addressed could result in a much higher total Mississippi belt use rate.

A breakdown of seat belt usage rates by county in the mini survey reveals Hinds County as the lone frontrunner at 94.5 percent restrained. Harrison, Jackson and Lauderdale Counties also illustrated occupant restraint usage above 80 percent. However, one disappointing behavioral characteristic in terms of occupants' low belt use were exhibited by Leflore County (54.0 percent).

The mini survey seems to produce baseline belt usage rates that adequately represent the state of Mississippi. Since the primary seat belt law passed in 2006, Mississippi has consistently shown belt usage rates in at least the low 70 percent range. This year marks the first year the baseline total has breached the 80 percent mark, which arguably implies a sustained belt use rate throughout the year when compared to last year's post-CIOT rate of 81 percent.

SECTION TWO: POST-CAMPAIGN OBSERVATIONAL SEAT BELT SURVEY RESULTS

The post-campaign survey was a recently (2008) re-designed observational survey that produced the official seat belt usage rates for the state of Mississippi in 2011. **Figure 2** shows the counties that frame the 2011 seat belt survey. There were 168 road segments observed in these 16 counties. This number of site locations is down from the 409 sites in 16 counties used in previous surveys prior to the 2008 surveys.

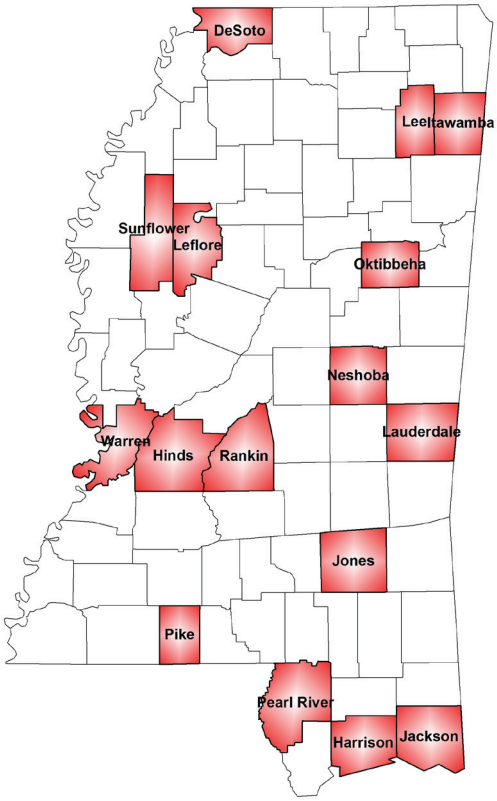


Figure 2: Post CIOT Survey Counties

1. DeSoto
2. Harrison
3. Hinds
4. Itawamba
5. Jackson
6. Jones
7. Lauderdale
8. Lee
9. Leflore
10. Neshoba
11. Oktibbeha
12. Pearl River
13. Pike
14. Rankin
15. Sunflower
16. Warren

Nine of these counties have historically been included in recent years' post campaign survey sample – **DeSoto, Harrison, Hinds, Jackson, Lauderdale, Lee, Leflore, Rankin and Warren**. The inclusion of these counties provides a familiar feel to the sample and more importantly a sense of reliability to the results. The overall result for the **2011 Mississippi Seat Belt Survey** is an **81.88 percent** occupant seat belt usage rate with a standard error of **0.68 percent**. The lower limit of the 95 percent confidence interval is 80.55 percent, and the upper limit is 83.21 percent.

Table 3: Seat Belt Usage Rates by Road Class

Full Survey of 168 Sites in 16 Counties

Road Class	Belt Usage Rate
Interstates & Other Expenses	87.7%
Other Principal Arterials	83.1%
Minor Arterials	79.3%
Collectors	80.4%

As it has been confirmed by many previous surveys, there is still a clearly defined trend of higher seat belt usage rates on higher traffic count roads. **Table 3** shows "Interstates and Other Expressways" leading the road class categories with nearly an 88 percent belt usage rate in 2011. The next level of road category, "Other Principal Arterials," followed closely with an 83.1 percent belt use rate. The remaining two functional classification divisions ("Minor Arterials" and "Collectors") had very similar rates to one another around the 80 percent range.

Table 4: Seat Belt Usage Rates by Vehicle

Full Survey of 168 Sites in 16 Counties

Vehicle	Belt Usage Rate
Passenger Car/Wagon	83.9%
Pickup	76.5%
SUV	85.4%
Van	83.3%

Table 4 illustrates the breakdown of belt usage rates in four vehicle categories. Passenger cars and sport utility vehicles, or SUVs, topped the list in percent belt usage with 83.9 percent and 85.4 percent respectively. Vans were in a close third with 83.3 percent occupant belt usage rate. To no surprise, pickup trucks were the vehicles with the lowest usage rate at 76.5 percent. However, this is a small improvement over last year's 71.3 percent usage rate and a tremendous improvement from the 62.3 percent usage rate for pickups in 2008.

The 2011 survey had four vehicle choices for surveyors. Instead of only differentiating pickup trucks from other passenger cars, as had previously been done prior to 2008, the surveyors made a choice among four categories: passenger car/wagon, pickup truck, SUV or van.

The tables on the subsequent pages (Tables 5-10) provide breakdowns of seat belt use rates by type of vehicle, by county, by driver/passenger and by gender. The extent of this data narrowing produces more specific results but is of practical use only if the number of observations is significant enough to draw conclusions. Usually the minimum number of total observations per category should be around 30 before conclusions can be drawn. Many of the figures in this series of tables may not meet this requirement. However, this in-depth breakdown can be used as a loose guide to potential specific problem areas that may deserve attention.

Table 5: Seat Belt Usage Rates by County - All Vehicles

Full Survey of 168 Sites in 16 Counties

All Types of Vehicles by Driver/Passenger and Gender (N = 19,931)

County	Drivers			Passengers			Occupants
	Male	Female	All	Male	Female	All	All
DeSoto	76.2%	85.1%	79.7%	73.6%	85.7%	79.2%	79.7%
Harrison	90.4%	96.0%	92.2%	87.4%	98.7%	94.6%	92.8%
Hinds	79.2%	85.0%	81.5%	77.6%	87.0%	83.2%	81.6%
Jackson	88.7%	95.5%	91.1%	85.0%	99.1%	93.1%	91.5%
Rankin	79.1%	81.6%	79.9%	74.2%	88.2%	82.5%	80.5%
Itawamba	68.6%	82.7%	73.7%	81.5%	82.5%	82.9%	75.9%
Jones	82.5%	93.3%	86.4%	78.5%	88.2%	84.2%	86.1%
Lauderdale	74.2%	87.0%	79.9%	84.6%	92.6%	88.9%	81.2%
Lee	68.8%	78.2%	72.8%	75.0%	87.2%	80.1%	74.4%
Leflore	65.3%	76.3%	70.2%	70.4%	79.2%	76.2%	71.0%
Neshoba	62.1%	65.6%	64.6%	66.6%	78.9%	73.3%	65.9%
Oktibbeha	75.3%	78.9%	76.8%	77.4%	85.1%	80.2%	77.3%
Pearl River	76.4%	85.9%	80.4%	85.8%	94.5%	91.8%	82.4%
Pike	74.4%	83.2%	78.7%	84.2%	85.1%	84.7%	79.6%
Sunflower	79.8%	91.7%	85.5%	74.8%	95.7%	88.1%	86.5%
Warren	94.1%	97.3%	95.3%	96.3%	100.0%	97.5%	95.5%
Total	**78.0%**	**85.7%**	**81.2%**	**79.9%**	**89.8%**	**85.5%**	**82.0%**

Note: Exceptionally positive belt use rates (above 90%) are highlighted in LIGHT BLUE and exceptionally low belt use rates (below 60%) are highlighted in LIGHT RED for the reader's convenience only. Some of these figures could be misleading due to basing a percentage on a very small number of observations. This phenomenon is common when producing breakdowns to a finer resolution. Also, 0% and 100% usage rates are highlighted in GOLD and should not be considered a true approximation for the same reason.

Table 5 considers all vehicle types and shows an overall total usage rate of 82.0 percent, which is virtually identical to the official overall rate of 81.88 percent.

Almost all surveyed vehicle occupants in Harrison, Jackson, and Warren Counties recorded outstanding belt use numbers over 90 percent (male drivers and passengers in Jackson County and male passengers in Harrison County are the exceptions). Male drivers in Itawamba, Lee, Leflore and Neshoba are on the low end of the spectrum of belt use with below 70 percent usage.

However, it should be noted that unlike in previous years, no figure in this breakdown is less than 60 percent. Only five of the 16 counties (Harrison, Jackson, Jones, Sunflower and Warren) had overall belt use equal to or higher than the 2010 national average of 85 percent.

Male drivers and passengers of all types of vehicles continue to lag behind females when it comes to buckling up. Seventy-eight percent of male drivers appear to be using seat belts, while female drivers are buckling up at nearly an eight percent higher rate. A greater ratio disparity exists by gender in passenger belt use – the female buckle rate is 89.8 percent, and the male rate is 79.9 percent.

All observed occupants in Warren County were exceptional at buckling up, and it should be noted that Warren increased its overall belt use from 64.4 percent in 2009 to 95.5 percent in 2011, which is a 30 percent increase in belt use in two years.

Table 6: Seat Belt Usage Rates by County - Cars, SUVs & Vans

Full Survey of 168 Sites in 16 Counties

Cars+SUVs+Vans by Driver/Passenger and Gender (N = 14,589)

County	Drivers			Passengers			Occupants
	Male	Female	All	Male	Female	All	All
DeSoto	80.8%	85.5%	83.2%	76.1%	87.6%	83.3%	83.4%
Harrison	91.2%	95.3%	92.6%	87.5%	98.9%	94.7%	93.1%
Hinds	80.9%	85.0%	82.5%	77.2%	86.0%	83.2%	82.4%
Jackson	88.4%	95.3%	91.1%	86.5%	99.1%	93.7%	91.6%
Rankin	85.2%	82.2%	82.5%	81.1%	89.3%	86.3%	83.3%
Itawamba	76.4%	81.9%	79.4%	95.3%	89.9%	92.1%	82.2%
Jones	83.7%	93.6%	87.9%	85.1%	88.9%	87.5%	87.9%
Lauderdale	83.5%	88.3%	86.6%	85.9%	94.5%	90.7%	87.5%
Lee	72.0%	78.6%	75.5%	80.8 %	86.5%	82.4%	77.0%
Leflore	64.9%	75.4%	71.2%	67.0%	83.2%	77.5%	72.0%
Neshoba	64.1%	65.3%	64.8%	59.3%	83.5%	74.4%	66.2%
Oktibbeha	78.7%	79.6%	79.4%	80.1%	85.6%	82.6%	80.0%
Pearl River	77.6%	85.8%	82.4%	86.7%	95.4%	92.2%	84.2%
Pike	85.8%	84.4%	85.5%	79.6%	92.5%	87.1%	86.1%
Sunflower	75.1%	91.6%	85.0%	67.9%	95.2%	89.0%	86.3%
Warren	93.3%	97.9%	95.1%	95.6%	100.0%	97.2%	95.3%
Total	**80.9%**	**85.9%**	**83.4%**	**80.7%**	**91.2%**	**87.2%**	**84.1%**

Note: Exceptionally positive belt use rates (above 90%) are highlighted in LIGHT BLUE and exceptionally low belt use rates (below 60%) are highlighted in LIGHT RED for the reader's convenience only. Some of these figures could be misleading due to basing a percentage on a very small number of observations. This phenomenon is common when producing breakdowns to a finer resolution. Also, 0% and 100% usage rates are highlighted in GOLD and should not be considered a true approximation for the same reason.

Table 6 shows results from the consolidation of three vehicle types - cars, SUVs and vans. The pickup absent category mimics the category of passenger cars in years before 2008.

The highlights in this particular breakdown show exemplary belt use rates by Harrison, Jackson and Warren Counties. Both males and females alike in these counties are committed to buckling up as they drive. Many counties show female drivers and passengers above or very close to 90 percent belt use.

It should be noted that in this pickup truck excluded table, the total rate of belt use is equal to the 2009 national average of 84 percent for all vehicles.

The low point of this table is exhibited by Neshoba County, showing an overall belt use rate of 66.2 percent and a male passenger belt use rate less than 60.0 percent. The next lowest county (Leflore at 72.0 percent) is a little less than six percentage points higher than Neshoba.

Table 7 is the first in this series that isolates a particular type of vehicle for analysis. In this case belt use in passenger cars/wagons are examined. The overall belt rate for cars is 83.9 percent. This figure is only two percent less than the 2010 passenger car national average of 86 percent. Counties showing a rate equal to or higher than the 2010 national average are Harrison, Jackson, Jones, Lauderdale, Pike and Warren. Excellent belt rates above 90 percent are scattered throughout the table and deserve attention. Also noteworthy, there is no figure below 60 percent in this breakdown as has been seen in previous years.

Table 7: Seat Belt Usage Rates by County - Passenger Cars

Full Survey of 168 Sites in 16 Counties
Passenger Cars by Driver/Passenger and Gender (N = 8,866)

County	Drivers			Passengers			Occupants
	Male	Female	All	Male	Female	All	All
DeSoto	81.0%	83.6%	82.2%	77.9%	84.1%	82.2%	82.3%
Harrison	90.4%	95.2%	92.0%	85.7%	99.1%	94.3%	92.4%
Hinds	79.9%	84.0%	81.6%	67.4%	85.1%	81.4%	81.4%
Jackson	86.5%	95.4%	89.9%	89.6%	98.8%	93.5%	90.6%
Rankin	85.8%	80.2%	81.5%	82.2%	86.8%	85.6%	82.6%
Itawamba	72.4%	75.0%	73.1%	98.9%	96.2%	96.0%	77.8%
Jones	82.7%	93.0%	87.3%	78.4%	87.9%	81.8%	86.3%
Lauderdale	88.9%	87.5%	88.6%	87.1%	93.1%	89.0%	88.7%
Lee	75.2%	79.9%	77.9%	82.4%	88.4%	85.2%	79.5%
Leflore	63.4%	74.1%	69.6%	76.9%	87.5%	83.2%	71.8%
Neshoba	66.3%	64.6%	65.1%	67.9%	90.4%	85.0%	67.6%
Oktibbeha	83.5%	76.9%	79.2%	80.1%	90.4%	84.5%	80.1%
Pearl River	76.1%	84.5%	81.0%	96.5%	93.5%	91.3%	82.6%
Pike	87.3%	86.0%	88.1%	93.6%	91.2%	93.0%	88.7%
Sunflower	74.1%	89.2%	81.8%	69.5%	94.6%	87.9%	83.7%
Warren	94.8%	96.2%	95.4%	100.0%	100.0%	100.0%	95.9%
Total	**81.5%**	**84.9%**	**83.1%**	**82.7%**	**91.5%**	**88.0%**	**83.9%**

Note: Exceptionally positive belt use rates (above 90 percent) are highlighted in LIGHT BLUE, and exceptionally low belt use rates (below 60 percent) are highlighted in LIGHT RED for the reader's convenience only. Some of these figures could be misleading due to basing a percentage on a very small number of observations. This phenomenon is common when producing breakdowns to a finer resolution. Also, 0 and 100 percent usage rates are highlighted in GOLD and should not be considered a true approximation for the same reason.

Table 8: Seat Belt Usage Rates by County - Pickup Trucks

Full Survey of 168 Sites in 16 Counties

Pickup Trucks by Driver/Passenger and Gender (N = 5,342)

County	Drivers			Passengers			Occupants
	Male	Female	All	Male	Female	All	All
DeSoto	68.8%	80.0%	69.6%	53.7%	70.9%	61.6%	68.5%
Harrison	88.3%	98.2%	91.4%	87.3%	98.6%	94.0%	91.9%
Hinds	75.8%	83.4%	76.8%	81.0%	92.7%	83.9%	77.8%
Jackson	90.2%	97.3%	91.5%	83.0%	98.9%	92.6%	91.8%
Rankin	74.0%	75.6%	74.3%	69.8%	76.5%	73.7%	73.8%
Itawamba	57.5%	72.7%	61.2%	57.9%	57.4%	62.0%	62.3%
Jones	80.4%	94.1%	82.1%	71.1%	74.1%	73.2%	80.7%
Lauderdale	68.2%	68.9%	68.8%	85.4%	84.2%	83.7%	70.4%
Lee	66.1%	63.9%	66.5%	61.6%	91.7%	74.6%	67.8%
Leflore	65.6%	87.2%	68.1%	75.5%	38.8%	67.1%	67.5%
Neshoba	59.8%	48.2%	61.3%	85.6%	71.0%	77.9%	63.0%
Oktibbeha	71.5%	69.9%	71.3%	67.7%	86.5%	74.9%	71.3%
Pearl River	74.1%	89.7%	76.3%	83.6%	93.3%	92.8%	78.9%
Pike	60.2%	58.5%	62.4%	70.6%	37.6%	73.5%	62.9%
Sunflower	82.4%	100.0%	84.8%	82.1%	100.0%	87.9%	86.1%
Warren	94.7%	94.5%	95.7%	100.0%	100.0%	100.0%	96.2%
Total	**74.6%**	**80.3%**	**76.0%**	**77.4%**	**81.8%**	**81.1%**	**76.6%**

Note: Exceptionally positive belt use rates (above 90 percent) are highlighted in LIGHT BLUE and exceptionally low belt use rates (below 60 percent) are highlighted in LIGHT RED for the reader's convenience only. Some of these figures could be misleading due to basing a percentage on a very small number of observations. This phenomenon is common when producing breakdowns to a finer resolution. Also, 0 and 100 percent usage rates are highlighted in GOLD and should not be considered a true approximation for the same reason.

Although not as distressing as in years past, **Table 8** still presents some major concerns and challenges to the state of Mississippi. A portion of the cells in this table are *light red,* meaning there are many belt use rates identified below 60 percent. Also note there are cells in *gold*, meaning these results should not be considered reliable for this breakdown. Again, these breakdowns to a fine resolution may not be representative of the individual group due to a low sample size (n).

However, a few bright spots can perhaps be identified. One example is female drivers and passengers in a few counties show terrific use rates in pickups. Female drivers and passengers in general show 80.3 percent and 81.8 percent use rates respectively. Harrison, Jackson and Warren Counties stand out as the exceptions in this table with overall pickup truck belt rates above 90 percent.

The overall belt usage rate for pickup trucks rose 5.4 percent (71.2 to 76.6) from 2010 to 2011. Despite this increase, it is clear that pickup trucks have the weakest belt use rates among vehicle types. Non-compliance of belt use in this category brings down Mississippi's overall belt use average considerably. The 2010 national average was 75 percent.

Table 9: Seat Belt Usage Rates by County - SUVs

Full Survey of 168 Sites in 16 Counties

SUVs by Driver/Passenger and Gender (N=4,264)

County	Drivers			Passengers			Occupants
	Male	Female	All	Male	Female	All	All
DeSoto	80.0%	85.1%	83.4%	73.7%	90.9%	83.8%	83.5%
Harrison	93.0%	95.6%	93.8%	93.3%	98.7%	96.7%	94.2%
Hinds	80.8%	88.5%	83.3%	86.1%	87.3%	88.3%	84.4%
Jackson	91.9%	95.5%	93.3%	76.2%	100.0%	93.4%	93.2%
Rankin	88.3%	85.2%	86.8%	75.5%	85.8%	80.8%	86.5%
Itawamba	77.8%	95.0%	89.6%	91.7%	96.3%	95.4%	90.8%
Jones	87.3%	95.0%	90.4%	95.9%	87.7%	91.5%	90.9%
Lauderdale	85.5%	88.7%	86.7%	97.4%	94.7%	94.9%	88.1%
Lee	73.8%	81.3%	74.2%	73.8%	85.1%	84.3%	76.1%
Leflore	64.0%	79.5%	75.7%	21.8%	79.8%	66.2%	74.8%
Neshoba	64.9%	67.5%	65.2%	76.8%	77.8%	62.3%	64.9%
Oktibbeha	73.0%	82.3%	77.7%	96.5%	80.4%	82.7%	78.5%
Pearl River	83.2%	89.3%	85.5%	83.5%	95.3%	91.1%	87.6%
Pike	83.0%	81.6%	79.3%	42.2%	100.0%	80.5%	78.6%
Sunflower	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Warren	90.9%	99.7%	96.1%	100.0%	100.0%	100.0%	96.5%
Total	**82.9%**	**88.1%**	**85.0%**	**81.2%**	**91.2%**	**87.3%**	**85.5%**

Note: Exceptionally positive belt use rates (above 90 percent) are highlighted in LIGHT BLUE and exceptionally low belt use rates (below 60 percent) are highlighted in LIGHT RED for the reader's convenience only. Some of these figures could be misleading due to basing a percentage on a very small number of observations. This phenomenon is common when producing breakdowns to a finer resolution. Also, 0 and 100 percent usage rates are highlighted in GOLD and should not be considered a true approximation for the same reason.

Table 9 shows seat belt use in SUVs is the highest of the vehicle types at 85.5 percent. Harrison, Jackson and Warren Counties produced excellent numbers across the board. Itawamba, Jones and Lauderdale showed signs of dramatic improvement compared to recent years. Many of the counties have SUV belt use rates in the high seventies and eighties. Leflore and Pike are displaying the lowest SUV male passenger belt rate, but these rates may not be based on an adequate number of cases, as is in the case of Sunflower County that shows 100 percent belt compliance.

The last category of vehicles in this series is vans. **Table 10** illustrates the breakdown by county, driver/passenger, and gender. Vans are not a prominent vehicle on Mississippi roads – just under 1,500 observations of vans for the entire survey of 16 counties. Consequently, that small a number broken down by multiple levels does not translate into reliable information at this scale. Several of the cells in this table are highlighted yellow for that exact reason.

The overall results of belt use in vans can be stated with reasonable confidence. **Table 10** shows van drivers (84.6 percent) buckling up more than passengers (82.0 percent). Also, the 2011 overall van usage rate (83.5 percent) is just over five percentage points more than last year's average belt rate for vans (78.4 percent) in Mississippi.

Table 10: Seat Belt Usage Rates by County - Vans

Full Survey of 168 Sites in 16 Counties

Vans by Driver/Passenger and Gender (N=1,459)

County	Drivers			Passengers			Occupants
	Male	Female	All	Male	Female	All	All
DeSoto	79.3%	93.8%	84.6%	87.4%	89.8%	92.0%	86.0%
Harrison	92.7%	100.0%	93.7%	100.0%	100.0%	100.0%	94.5%
Hinds	91.3%	88.7%	88.9%	62.9%	59.8%	58.2%	84.1%
Jackson	95.0%	100.0%	97.1%	89.8%	100.0%	97.2%	97.0%
Rankin	84.2%	87.4%	84.1%	85.3%	93.4%	87.2%	83.9%
Itawamba	95.2%	82.9%	87.4%	97.8%	71.4%	70.9%	83.4%
Jones	76.9%	100.0%	85.4%	100.0%	100.0%	100.0%	86.2%
Lauderdale	68.1%	81.7%	75.4%	73.2%	100.0%	90.2%	80.0%
Lee	67.0%	75.1%	72.6%	57.2%	82.0%	70.1%	71.5%
Leflore	52.1%	81.5%	65.8%	31.9%	67.3%	48.6%	64.4%
Neshoba	55.5%	95.0%	70.0%	79.8%	90.8%	81.2%	70.1%
Oktibbeha	85.1%	97.4%	88.7%	0.0%	100.0%	87.6%	87.4%
Pearl River	80.8%	0.0%	80.8%	76.4%	0.0%	76.4%	78.8%
Pike	83.4%	89.4%	85.6%	65.0%	70.7%	77.5%	83.8%
Sunflower	100.0%	100.0%	100.0%	43.8%	100.0%	71.9%	86.0%
Warren	91.5%	100.0%	93.9%	83.2%	100.0%	94.5%	93.7%
Total	**81.0%**	**91.6%**	**84.6%**	**71.7%**	**88.4%**	**82.0%**	**83.5%**

Note: Exceptionally positive belt use rates (above 90 percent) are highlighted in LIGHT BLUE and exceptionally low belt use rates (below 60 percent) are highlighted in LIGHT RED for the reader's convenience only. Some of these figures could be misleading due to basing a percentage on a very small number of observations. This phenomenon is common when producing breakdowns to a finer resolution. Also, 0 and 100 percent usage rates are highlighted in GOLD and should not be considered a true approximation for the same reason.

Figure 3A: Male Seat Belt Usage Rates by Vehicle Type & Race
Full Survey of 168 Sites in 16 Countries

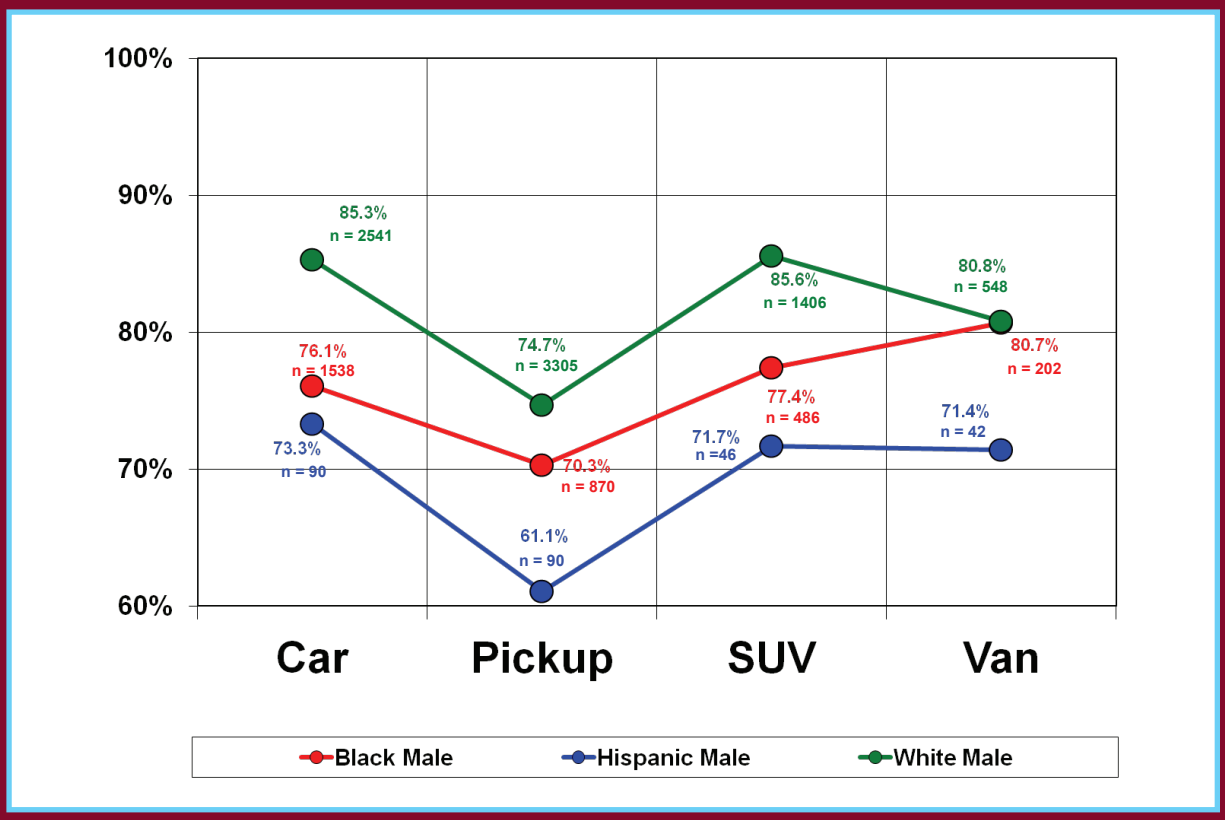


Figure 3B: Female Seat Belt Usage Rates by Vehicle Type & Race
Full Survey of 168 Sites in 16 Countries

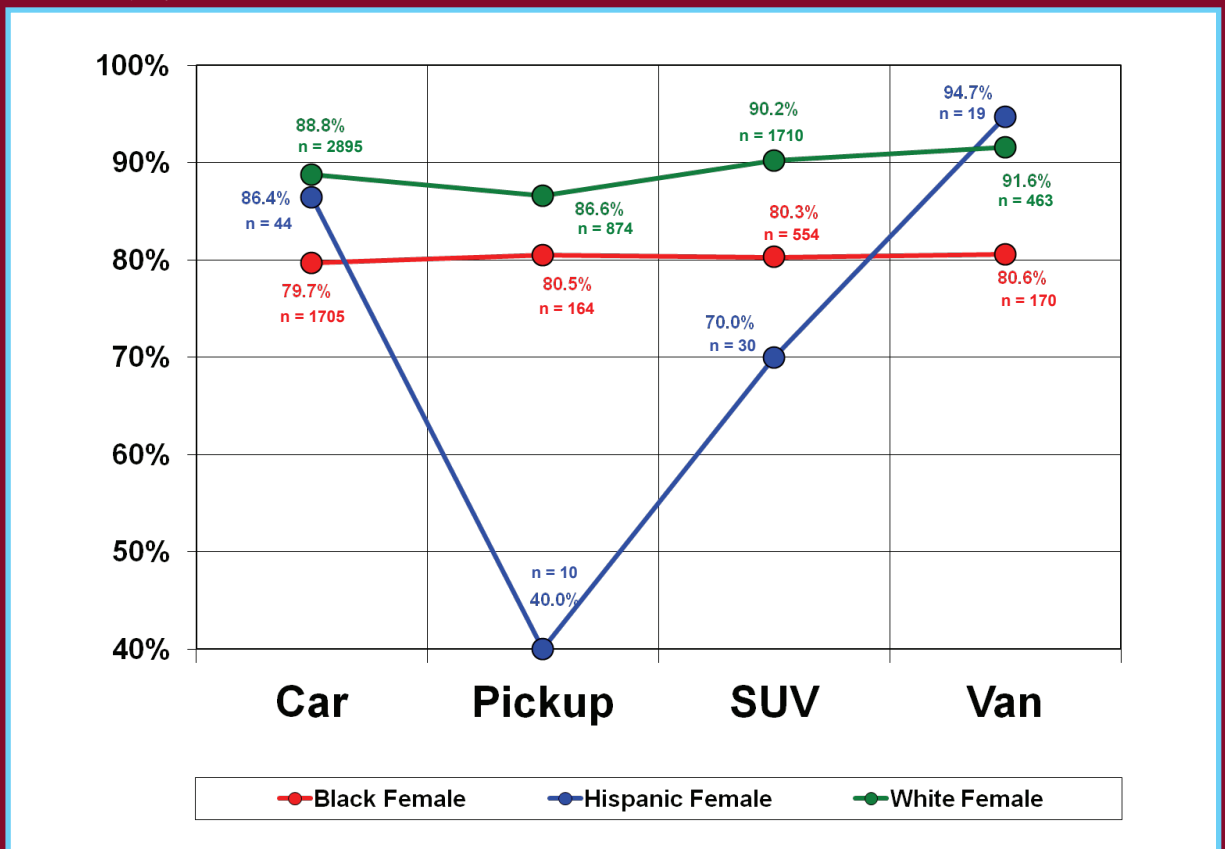


Figure 3A and **Figure 3B** are graphic illustrations of how well the observed population buckled up by gender, race and type of vehicle. Figure 3A shows males, and Figure 3B shows females. Notice how the Black and White trends are virtually parallel in both male and female figures. Black males tend to trail behind White males in buckling up in Mississippi – same behavior exists when comparing females. Also, a comparison between graphs shows females using vehicle restraints far better than males. In general, the conclusion can be drawn that White females are the most likely group to be using a seat belt restraint in Mississippi.

CAR

>80%

The first columns in both graphs show White males and White females atop the buckled list for passenger cars around the mid to high 80 percent range.

PICKUP

86.6%

The second columns show White females (86.6 percent) and Black females (80.5 percent) buckling up more often than White males (74.7 percent) and Black males (70.3 percent).

The Hispanic percentage figures in both graphs could be misleading; therefore, the number of observations is included in the graphs. As you can see, only the column showing Hispanic males in passenger cars in Figure 3A has a sample size approaching 100. The other columns in each of the graphs present data that may not be representative of Hispanic motorists' behavior.

SUV

>75%

The third column illustrates SUV belt use range from 77.4 percent (Black males) to 90.2 percent (White females). Again, the Hispanic figures may not be representative.

VAN

91.6%

White females in vans have the highest rate of belt use behavior in the state with 91.6 percent of the 463 observed buckling up. Hispanic females showed an observed rate higher (94.7 percent) than White females but based on only 19 observations. This is not considered representative of Hispanic females, but it is a very positive observation.

Figure 4: Seat Belt Usage Rates by Race & Gender
Full Survey of 168 Sites in 16 Counties

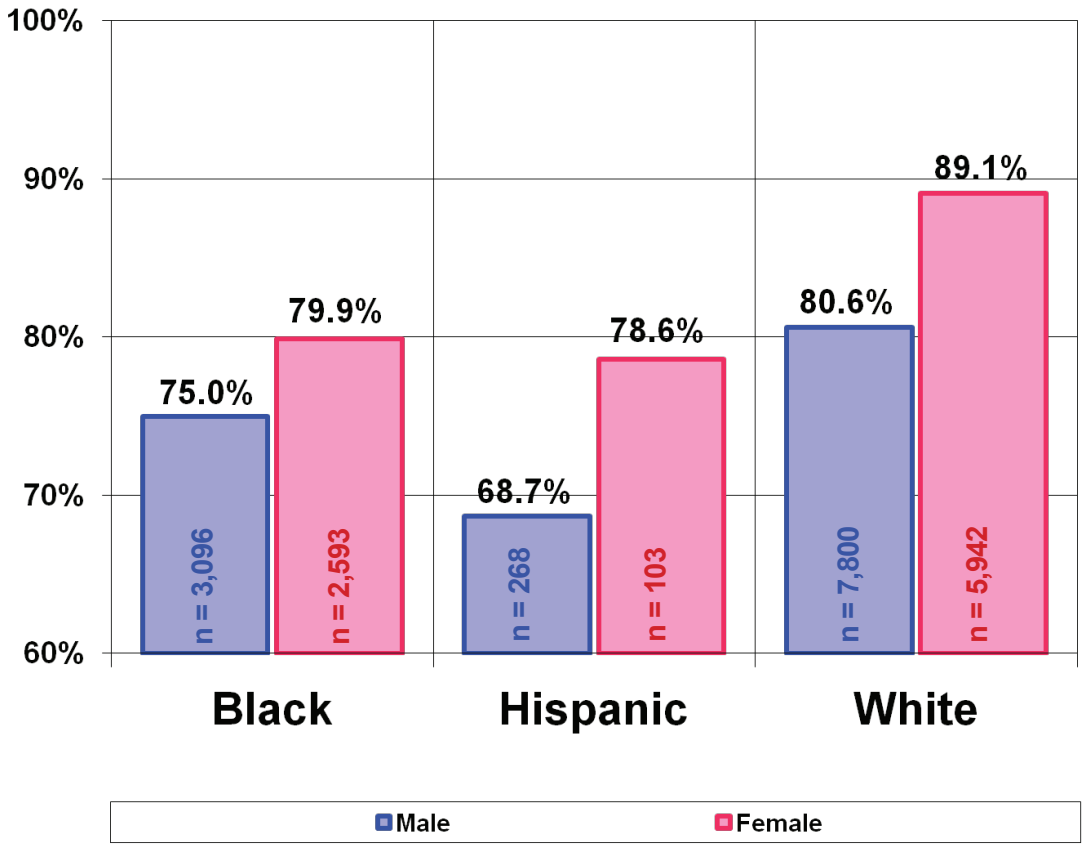


Figure 4 presents an analysis of belt use broken down only by race and gender. This chart reveals that males within each race category lag about five to ten percentage points behind females when it comes to buckling up. White females are almost ten percentage points above Black females and almost 15 percentage points above Black males. When compared to last year's numbers, Black males increased belt use by five percent, whereas both Hispanic males and females showed a decrease in belt use of seven to ten percent respectively. Black females usage rates are almost identical to White males considering White males increased their belt use by two percent from 2010 to 2011.

The figures on the following page illustrate Mississippi seat belt usage rates for the past 18 years (Figure 5) and the seat belt use rates for the United States in 2010 (Figure 6).

Figure 5: Mississippi Seat Belt Usage Rates
With 95% Confidence Interval Upper and Lower Limits (1994-2011)

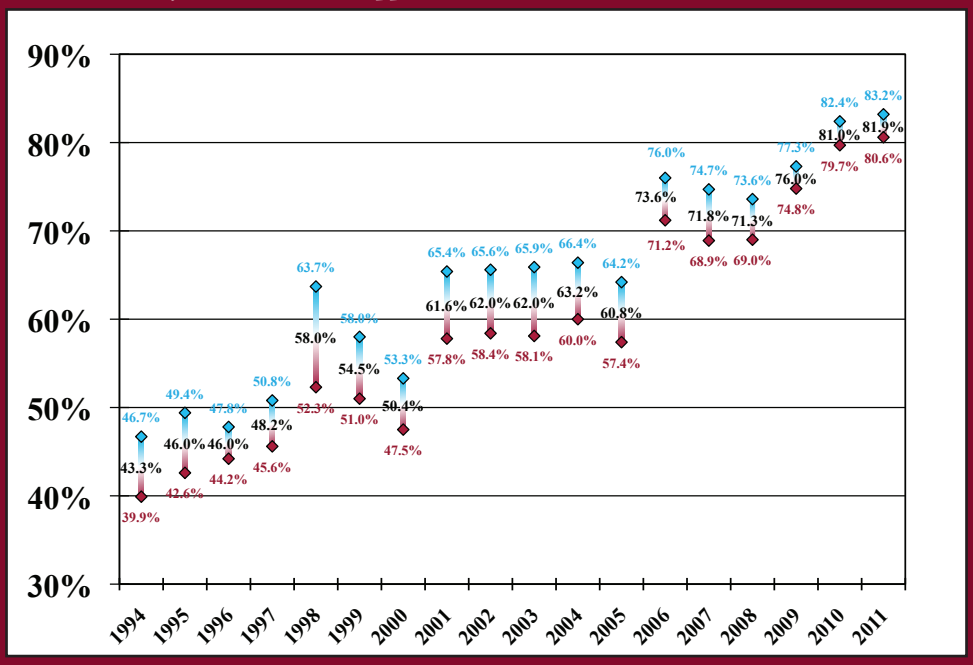
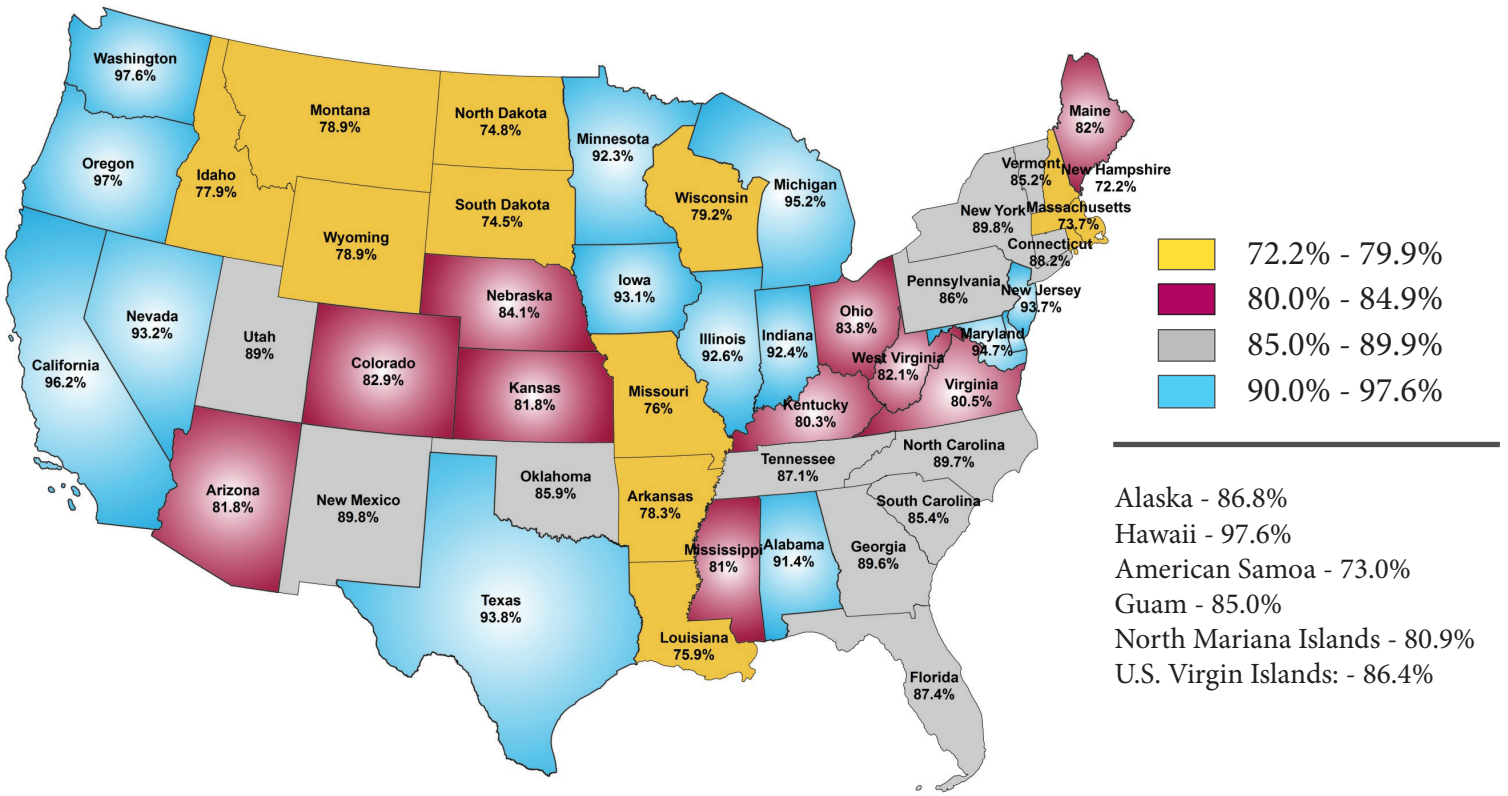


Figure 5 shows a definite upward trend of seat belt usage rates since 1994. Each year displays an official belt use rate and 95 percent confidence interval upper and lower limits. Since the primary seat belt law went into effect in 2006, the trend stayed relatively flat for about three years as can be seen by the overlapping of confidence intervals from 2006 to 2009. The rate took a significant positive jump last year to 81.0 percent and a small positive of increase of less than one percent this year.

Figure 6 has been included below this trend chart for viewers to gain a geographic sense of Mississippi's peer states with regard to belt use rates in 2010. Mississippi is now in the second tier of states with an overall belt use average over 80 percent. As can be seen, several states are trailing Mississippi in belt use. States colored in a *light red* had seat belt usage rates below the 2010 national average of 85 percent. States in the *light gray* or *light blue* had belt use rates above the national average. The highest belt use states in the nation (above 90 percent) are the *light blue* states.

Figure 6: National Seat Belt Use Rates in 2010
Source: 2009 NHTSA Traffic Safety Facts: Crash/Stats DOT HS 811324 - May 2010



SECTION THREE: BELT USE BEFORE AND AFTER INTERVENTION

The comparison of the baseline (or pre-campaign) survey results to the follow-up (or post-campaign) survey may provide officials feedback on where media and enforcement tactics worked in increasing seat belt awareness or changing human behavior with regard to buckling up. Comparative analysis can also give officials direction on what facets of the campaign need to be targeted for altering or strengthening. The following tables and figures illustrate how the campaign may have affected seat belt use throughout the state of Mississippi.

Table 11: Baseline versus Follow-up County Comparisons

Seat Belt Usage Rates by County

County	Percent Belted		Percent Change	Percent + or -
	Baseline*	Follow-up		
DeSoto	76.6%	79.7%	3.1%	4.0%
Harrison	90.6%	92.8%	2.2%	2.4%
Hinds	94.5%	81.6%	-12.9%	-13.7%
Itawamba	-	75.9%	-	-
Jackson	87.7%	91.5%	3.8%	4.3%
Jones	-	86.1%	-	-
Lauderdale	86.6%	81.2%	-5.4%	-6.2%
Lee	79.5%	74.4%	-5.1%	-6.4%
Leflore	54.0%	71.0%	17.0%	31.5%
Neshoba	-	65.9%	-	-
Oktibbeha	73.7%	77.3%	3.6%	4.9%
Pearl River	-	82.4%	-	-
Pike	-	79.6%	-	-
Rankin	-	80.5%	-	-
Sunflower	-	86.5%	-	-
Warren	-	95.5%	-	-
Total	**80.4%**	**81.9%**	**1.5%**	**1.8%**

* Baseline percentages are not weighted

Comparing pre- and post-campaign seat belt usage numbers in Table 11 is helpful in determining geographic areas that may need special attention in future campaigning. However, it must be noted that in Table 11 the follow-up results are weighted figures, and the baseline results are unweighted. Weighting the follow-up figures does not skew the figures drastically, but this is still an unconventional means of comparison. Therefore, the comparisons in Table 11 are relative and decisions based on the percent change or percent increase or decrease should take this into account. Table 11 shows a mentionable post-campaign 31.5 percent increase in belt use for Leflore County. Hinds County, on the other hand, is the only county that demonstrated a significant decline (-13.7 percent) in belt use over the CIOT campaign.

Table 12: Baseline versus Follow-up Road Class Comparisons

Seat Belt Usage Rates by Road Class

Vehicle	Percent Belted		Percent Change	Percent + or -
	Baseline*	Follow-up*		
Interstates & Other Expressways	87.4%	87.7%	0.3%	0.4%
Other Principal Arterials	79.4%	83.1%	3.7%	4.6%
Minor Arterials	76.5%	79.3%	2.8%	3.7%
Collectors	77.5%	80.4%	2.9%	3.7%

* Baseline and follow-up percentages are not weighted

Comparing before and after belt usage rates by road classification is presented in **Table 12**. The largest change was a positive change in Other Principal Arterials roads (4.6%), but all classifications of roads showed increases. These increases suggest the CIOT seat belt awareness message was successful across all road classes.

Table 13: Baseline versus Follow-up Vehicle Type Comparisons

Seat Belt Usage Rates by Vehicle Type

Vehicle	Percent Belted		Percent Change	Percent + or -
	Baseline*	Follow-up*		
Car/Wagon	80.9%	83.9%	3.0%	3.7%
Pickup	74.4%	76.5%	2.1%	2.8%
SUV	84.5%	85.4%	0.9%	1.1%
Van	85.3%	83.3%	-2.0%	-2.4%

* Baseline and follow-up percentages are not weighted

Table 13 illustrates there were more positive than negative changes in belt use across type of vehicle due to the CIOT campaign. Passenger car occupants showed the best response to the campaign with a modest 3.7 percent increase in observed belt use. SUVs and pickup truck occupants also demonstrated slight increases in belt usage presumably due to the campaign. However, van occupants exhibited a decrease in belt use despite the campaign efforts.

Table 14: Baseline versus Follow-up Race/Gender Comparisons

Seat Belt Usage Rates by Race and Gender

	Percent Belted		Percent Change	Percent + or -
	Baseline*	Follow-up*		
Black Female	75.9%	79.9%	4.0%	5.3%
Black Male	68.6%	75.0%	6.4%	9.3%
Hispanic Female	81.5%	78.6%	-2.9%	-3.6%
Hispanic Male	67.1%	68.7%	1.6%	2.4%
White Female	87.3%	89.1%	1.8%	2.1%
White Male	82.0%	80.6%	-1.4%	-1.7%

* Baseline and follow-up percentages are not weighted

In **Table 14,** the comparison of belt use is across race and gender. Both the baseline and follow-up numbers in this table are unweighted. The CIOT campaign seems to have made major impact on the Black community. Both Black males and females showed significant increases in belt use across the campaign with 9.3 percent and 5.3 percent increases respectively. There was a slight increase (2.1 percent) in belt use among White females, while White males showed a minor decrease (-1.7 percent). A small decrease (-3.6%) in Hispanic female belt use rates is shown, as well as a small increase (2.4 percent) for Hispanic males, but the percentages were calculated using very small numbers of observations. These pre- and post-campaign comparisons may not be representative of the Hispanic motoring population. The Hispanic population in Mississippi is small but will continue to grow and should be considered as an integral part of any future seat belt campaign.

Comparison of the overall Mississippi belt use numbers in 2011 is the following:

The unweighted baseline belt use rate is **80.4 percent.**

The unweighted follow-up belt use is **82.0 percent.**

The official, weighted belt use rate for Mississippi is **81.9 percent.**

Percent change of **1.6 percent**

Percent increase of **2.0 percent**

SECTION FOUR: MOTORCYCLE HELMET USE

The final segment for discussion is motorcycle helmet use in Mississippi. Mississippi is fortunate to have an excellent motorcycle helmet law. It is a primary law. All motorcycle riders must wear helmets or receive a ticket. As a part of the post-campaign seat belt survey, motorcycle helmets were also counted, and helmet use in 2011 was found to be an outstanding 97.0 percent.

Whereas motorcycle helmet use has shown a sharp decline in use in the U.S., Mississippi has maintained a consistently high percentage of use. A number of studies (Arkansas and Texas to name two) have consistently and very strongly shown that helmet use is directly correlated with having a primary law. It is hoped that the legislature will continue to resist efforts to roll back the primary law.

97.0%

Motorcycle helmet use in Mississippi in 2011 is 97.0 percent.

Table 15: Mississippi Unweighted Motorcycle Helmet Usage

Full Survey of 168 Sites in 16 Counties

Motorcycle Riders	Counts	Percent
Using Helmet	163	97.0%
Not Using Helmet	5	3.0%
Total	**168**	**100.0%**

Table 15 provides a summary on the 2011 Motorcycle Helmet Survey in Mississippi. There was no attempt in the survey to judge whether the helmet was legal or illegal.

SUMMARY

For over a decade, intense media and enforcement campaigns have been directed towards Mississippians with the intent of increasing their awareness of seat belt laws, promoting highway safety and changing the behavior of those who do not buckle their belts. The Click It or Ticket (CIOT) campaign is conducted over a four week period of earned media, paid media and enforcement. This awareness and enforcement effort is part of the Memorial Day mobilization. The effectiveness of these efforts was evaluated by surveys managed by the Social Science Research Center at Mississippi State University.

In 2008, a new survey design was developed, approved by National Highway Traffic and Safety Administration (NHTSA) and implemented. This new design includes 168 observation sites in 16 Mississippi counties.This new design took the place of the old design which was comprised of 409 observation sites in 16 counties. The new survey of 168 sites has been used for the past four years as the post-campaign survey capturing the official seat belt usage rates for the state each year. The 2011 Mississippi observational seat belt survey was conducted after CIOT project implementation during the month of June.

Prior to the CIOT campaign, a mini survey was conducted to establish a baseline seat belt usage rate before the CIOT campaign. The results of the mini survey are believed to represent the state adequately. These baseline data – observations from eight sites in each of eight counties – were collected over the month of April and early May 2011.

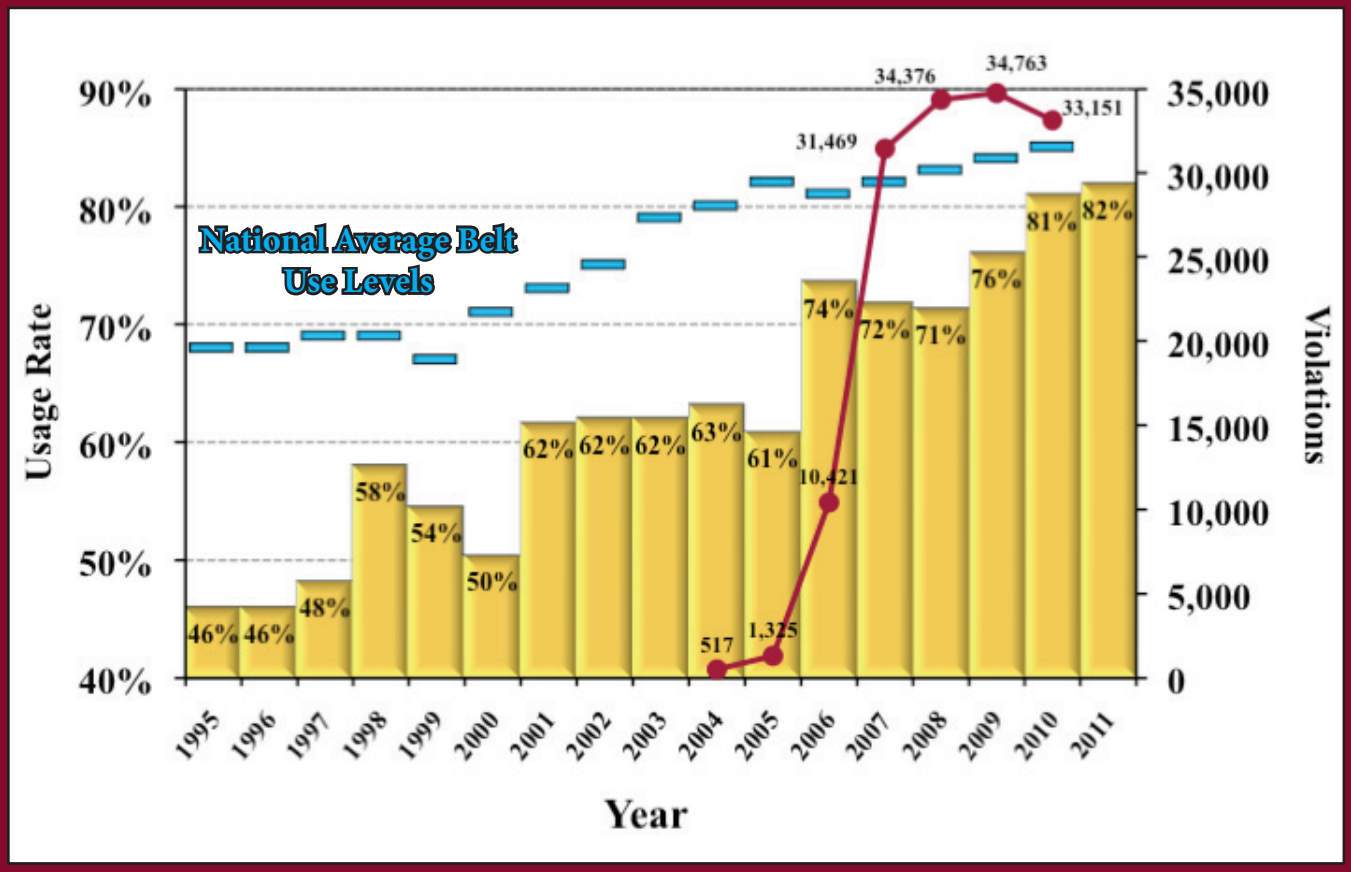
Overall, the baseline information indicated a 80.4 percent belt use rate, and when compared to the 81.9 percent count in the post campaign survey, Mississippi showed a favorable change in belt use over the campaign period. In addition, Mississippi has for the second consecutive year breached the 80 percent mark in overall belt usage. This means four out of five Mississippi motorists are choosing to drive and ride safer by using seat belts. Perhaps this indicates the seat belt media and enforcement activities of 2011 encouraged this positive behavior in Mississippi. The primary seat belt law was enacted in 2006 and the high level of enforcement accompanying this law has seemed to engrave positive behaviors and attitudes into a greater percentage of Mississippi motorists. The recent step forward over the 80 percent benchmark and the retention of belt use behavior throughout the past few years have undoubtedly saved many lives. Nevertheless, the state must continue to strive forward in the challenge to raise seat belt usage rates up to the current national average of 85 percent.

Finally, as is evident by the survey numbers, Mississippi has an excellent usage rate for motorcycle helmets. For a number of years, the helmet use rate has been near 100 percent.

For the second consecutive year, Mississippi has shown a belt use rate **greater than 80 percent.** This means **four out of five** Mississippi motorists are choosing to drive and ride safer by using seat belts.

Mississippi Seat Belt Usage Rates & Belt Violation Citations

The figure below shows a bar and line graph depicted simultaneously in one chart. The bar graph shows Mississippi's seat belt usage rates over the past 17 years. From a dismal rate of 46 percent in 1995 to this year's level of 82 percent, the upward trend over this time period is apparent.



Until 2000, the belt use rate remained below half of the Mississippi motoring population. From 2001 to 2005 a relatively flat belt use rate in the lower 60 percent range was exhibited by the state. It wasn't until 2006 when Mississippi enacted a primary seat belt law that provided the catalyst for over a ten percentage point increase in belt use. Beginning in 2006 the number of seat belt citations being issued rose dramatically.

From 2007 to 2010 the number of violations issued for non-compliance of the state's seat belt law is shown to surpass 30,000 citations per year. This increase in law enforcement, coupled with high visibility "Click It or Ticket" campaigns, has brought Mississippi over the 80 percent usage mark for the second year in a row. With four out of five Mississippi motorist buckling up, the probability of fewer deaths on the state's road network is at an all time high.

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